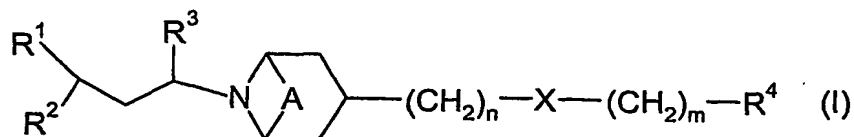


CLAIMS

1. A compound of formula (I):



wherein:

A is absent or is (CH₂)₂;

R¹ is C₁₋₈ alkyl, C(O)NR¹⁰R¹¹, C(O)₂R¹², NR¹³C(O)R¹⁴, NR¹⁵C(O)NR¹⁶R¹⁷, NR¹⁸C(O)₂R¹⁹, heterocyclyl, aryl or heteroaryl;

R¹⁰, R¹³, R¹⁵, R¹⁶ and R¹⁸ are hydrogen or C₁₋₆ alkyl;

R¹¹, R¹², R¹⁴, R¹⁷ and R¹⁹ are C₁₋₈ alkyl (optionally substituted by halo, hydroxy, C₁₋₆ alkoxy, C₁₋₆ haloalkoxy, C₃₋₆ cycloalkyl (optionally substituted by halo), C₅₋₆ cycloalkenyl, S(C₁₋₄ alkyl), S(O)(C₁₋₄ alkyl), S(O)₂(C₁₋₄ alkyl), heteroaryl, aryl, heteroaryloxy or aryloxy), aryl, heteroaryl, C₃₋₇ cycloalkyl (optionally substituted by halo or C₁₋₄ alkyl), C₄₋₇ cycloalkyl fused to a phenyl ring, C₅₋₇ cycloalkenyl, or, heterocyclyl (itself optionally substituted by oxo, C(O)(C₁₋₆ alkyl), S(O)_k(C₁₋₆ alkyl), halo or C₁₋₄ alkyl); or R¹¹, R¹², R¹⁴ and R¹⁷ can also be hydrogen; or R¹⁰ and R¹¹, and/or R¹⁶ and R¹⁷ may join to form a 4-, 5- or 6-membered ring which optionally includes a nitrogen, oxygen or sulphur atom, said ring being optionally substituted by C₁₋₆ alkyl, S(O)_l(C₁₋₆ alkyl) or C(O)(C₁₋₆ alkyl);

R² is C₁₋₆ alkyl, phenyl, heteroaryl or C₃₋₇ cycloalkyl;

R³ is H or C₁₋₄ alkyl;

R⁴ is aryl, heteroaryl, C₁₋₆ alkyl or C₃₋₇ cycloalkyl;

X is O or S(O)_p;

m and n are, independently, 0, 1, 2 or 3, provided m + n is 1 or more;

aryl, phenyl and heteroaryl moieties are independently optionally substituted by one or more of halo, cyano, nitro, hydroxy, OC(O)NR²⁰R²¹, NR²²R²³, NR²⁴C(O)R²⁵, NR²⁶C(O)NR²⁷R²⁸, S(O)₂NR²⁹R³⁰, NR³¹S(O)₂R³², C(O)NR³³R³⁴, CO₂R³⁶, NR³⁷CO₂R³⁸, S(O)_qR³⁹, OS(O)₂R⁴⁹, C₁₋₆ alkyl (optionally mono-substituted by S(O)₂R⁵⁰ or C(O)NR⁵¹R⁵²), C₂₋₆ alkenyl, C₂₋₆ alkynyl, C₃₋₁₀ cycloalkyl, C₁₋₆ haloalkyl, C₁₋₆ alkoxy(C₁₋₆)alkyl, C₁₋₆ alkoxy (optionally mono-substituted by CO₂R⁵³, C(O)NR⁵⁴R⁵⁵, cyano, heteroaryl or C(O)NHS(O)₂R⁵⁶), NHC(O)NHR⁵⁷, C₁₋₆

haloalkoxy, phenyl, phenyl(C₁₋₄)alkyl, phenoxy, phenylthio, phenylS(O), phenylS(O)₂, phenyl(C₁₋₄)alkoxy, heteroaryl, heteroaryl(C₁₋₄)alkyl, heteroaryloxy or heteroaryl(C₁₋₄)alkoxy; wherein any of the immediately foregoing phenyl and heteroaryl moieties are optionally substituted with halo, hydroxy, nitro, S(C₁₋₄ alkyl), S(O)(C₁₋₄ alkyl), S(O)₂(C₁₋₄ alkyl), S(O)₂NH₂, S(O)₂NH(C₁₋₄ alkyl), S(O)₂N(C₁₋₄ alkyl)₂, cyano, C₁₋₄ alkyl, C₁₋₄ alkoxy, C(O)NH₂, C(O)NH(C₁₋₄ alkyl), C(O)N(C₁₋₄ alkyl)₂, CO₂H, CO₂(C₁₋₄ alkyl), NHC(O)(C₁₋₄ alkyl), NHS(O)₂(C₁₋₄ alkyl), CF₃ or OCF₃;

unless otherwise stated heterocyclyl is optionally substituted by C₁₋₆ alkyl [optionally substituted by phenyl {which itself optionally substituted by halo, C₁₋₄ alkyl, C₁₋₄ alkoxy, cyano, nitro, CF₃, OCF₃, (C₁₋₄ alkyl)C(O)NH, S(O)₂NH₂, C₁₋₄ alkylthio, S(O)(C₁₋₄ alkyl) or S(O)₂(C₁₋₄ alkyl)} or heteroaryl {which itself optionally substituted by halo, C₁₋₄ alkyl, C₁₋₄ alkoxy, cyano, nitro, CF₃, (C₁₋₄ alkyl)C(O)NH, S(O)₂NH₂, C₁₋₄ alkylthio, S(O)(C₁₋₄ alkyl) or S(O)₂(C₁₋₄ alkyl)}], phenyl {optionally substituted by halo, C₁₋₄ alkyl, C₁₋₄ alkoxy, cyano, nitro, CF₃, OCF₃, (C₁₋₄ alkyl)C(O)NH, S(O)₂NH₂, C₁₋₄ alkylthio, S(O)(C₁₋₄ alkyl) or S(O)₂(C₁₋₄ alkyl)}, heteroaryl {optionally substituted by halo, C₁₋₄ alkyl, C₁₋₄ alkoxy, cyano, nitro, CF₃, (C₁₋₄ alkyl)C(O)NH, S(O)₂NH₂, C₁₋₄ alkylthio, S(O)(C₁₋₄ alkyl) or S(O)₂(C₁₋₄ alkyl)}, S(O)₂NR⁴⁰R⁴¹, C(O)R⁴², C(O)₂(C₁₋₆ alkyl) (such as tert-butoxycarbonyl), C(O)₂(phenyl(C₁₋₂ alkyl)) (such as benzyloxycarbonyl), C(O)NHR⁴³, S(O)₂R⁴⁴, NHS(O)₂NHR⁴⁵, NHC(O)R⁴⁶, NHC(O)NHR⁴⁷ or NHS(O)₂R⁴⁸, provided none of these last four substituents is linked to a ring nitrogen;

k, l, p and q are, independently, 0, 1 or 2;

R²⁰, R²², R²⁴, R²⁶, R²⁷, R²⁹, R³¹, R³³, R³⁷, R⁴⁰, R⁵¹ and R⁵⁴ are, independently, hydrogen or C₁₋₆ alkyl;

R²¹, R²³, R²⁵, R²⁸, R³⁰, R³², R³⁴, R³⁶, R³⁸, R³⁹, R⁴¹, R⁴², R⁴³, R⁴⁴, R⁴⁵, R⁴⁶, R⁴⁷, R⁴⁸, R⁴⁹, R⁵⁰, R⁵², R⁵³, R⁵⁵, R⁵⁶ and R⁵⁷ are, independently, C₁₋₆ alkyl (optionally substituted by halo, hydroxy, C₁₋₆ alkoxy, C₁₋₆ haloalkoxy, C₃₋₆ cycloalkyl, C₅₋₆ cycloalkenyl, S(C₁₋₄ alkyl), S(O)(C₁₋₄ alkyl), S(O)₂(C₁₋₄ alkyl), heteroaryl, phenyl, heteroaryloxy or phenyloxy), C₃₋₇ cycloalkyl, phenyl or heteroaryl; wherein any of the immediately foregoing phenyl and heteroaryl moieties are optionally substituted with halo, hydroxy, nitro, S(C₁₋₄ alkyl), S(O)(C₁₋₄ alkyl), S(O)₂(C₁₋₄ alkyl), S(O)₂NH₂, S(O)₂NH(C₁₋₄ alkyl), S(O)₂N(C₁₋₄ alkyl)₂, cyano, C₁₋₄ alkyl, C₁₋₄ alkoxy, C(O)NH₂,

C(O)NH(C₁₋₄ alkyl), C(O)N(C₁₋₄ alkyl)₂, CO₂H, CO₂(C₁₋₄ alkyl), NHC(O)(C₁₋₄ alkyl), NHS(O)₂(C₁₋₄ alkyl), C(O)(C₁₋₄ alkyl), CF₃ or OCF₃;

R²¹, R²³, R²⁵, R²⁸, R³⁰, R³⁴, R³⁵, R³⁶, R⁴¹, R⁴², R⁴³, R⁴⁵, R⁴⁶, R⁴⁷, R⁵², R⁵³, R⁵⁵ and R⁵⁷ may additionally be hydrogen;

or a pharmaceutically acceptable salt thereof or a solvate thereof.

2. A compound as claimed in claim 1 wherein R¹ is NHC(O)R¹⁴, phenyl or heterocyclyl, wherein R¹⁴ is as defined in claim 1, and phenyl and heterocyclyl are optionally substituted as described in claim 1.

3. A compound as claimed in claim 1 or 2 wherein R² is phenyl or heteroaryl, either of which is optionally substituted by halo, C₁₋₄ alkyl, C₁₋₄ alkoxy, S(O)_n(C₁₋₄ alkyl), nitro, cyano or CF₃; wherein n is 0, 1 or 2.

4. A compound as claimed in claim 1, 2 or 3 wherein R³ is hydrogen.

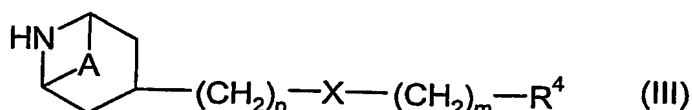
5. A compound as claimed in claim 1, 2, 3 or 4 wherein R⁴ is phenyl optionally substituted by one or more of halo, hydroxy, nitro, S(C₁₋₆ alkyl), S(O)(C₁₋₆ alkyl), S(O)₂(C₁₋₆ alkyl), S(O)₂NH₂, S(O)₂NH(C₁₋₆ alkyl), S(O)₂N(C₁₋₆ alkyl)₂, cyano, C₁₋₆ alkyl, C₁₋₆ alkoxy, CH₂S(O)₂(C₁₋₆ alkyl), OS(O)₂(C₁₋₆ alkyl), OCH₂heteroaryl, OCH₂CO₂H, OCH₂CO₂(C₁₋₆ alkyl), OCH₂C(O)NH₂, OCH₂C(O)NH(C₁₋₆ alkyl), OCH₂CN, NH₂, NH(C₁₋₆ alkyl), N(C₁₋₆ alkyl)₂, C(O)NH₂, C(O)NH(C₁₋₆ alkyl), C(O)N(C₁₋₆ alkyl)₂, CO₂H, CO₂(C₁₋₆ alkyl), NHC(O)(C₁₋₆ alkyl), NHC(O)O(C₁₋₆ alkyl), NHS(O)₂(C₁₋₆ alkyl), CF₃, CHF₂, CH₂F, CH₂CF₃, OCF₃, heteroaryl or heteroaryl(C₁₋₄ alkyl); wherein the foregoing heteroaryl groups are optionally substituted by halo, hydroxy, nitro, S(C₁₋₄ alkyl), S(O)(C₁₋₄ alkyl), S(O)₂(C₁₋₄ alkyl), S(O)₂NH₂, S(O)₂NH(C₁₋₄ alkyl), S(O)₂N(C₁₋₄ alkyl)₂, cyano, C₁₋₄ alkyl, C₁₋₄ alkoxy, C(O)NH₂, C(O)NH(C₁₋₄ alkyl), C(O)N(C₁₋₄ alkyl)₂, CO₂H, CO₂(C₁₋₄ alkyl), NHC(O)(C₁₋₄ alkyl), NHS(O)₂(C₁₋₄ alkyl), CF₃ or OCF₃.

6. A compound as claimed in claim 1, 2, 3, 4 or 5 wherein A is absent.

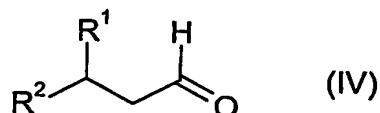
7. A compound as claimed in any one of the preceding claims wherein n is 2.

8. A compound as claimed in any one of the preceding claims wherein m is 0.
9. A compound as claimed in any one of the preceding claims wherein X is $S(O)_2$.

10. A process for preparing of a compound as claimed in claim 1 comprising:
- a. to prepare a compound wherein R^3 is hydrogen, coupling a compound of formula (III):

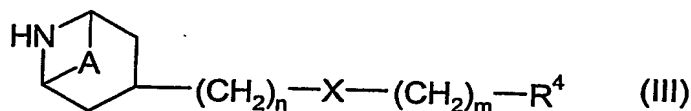


wherein R^4 , m , n , A and X are as defined in claim 1, with a compound of formula (IV):

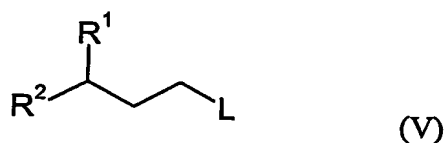


wherein R^1 and R^2 are as defined in claim 1, in the presence of $\text{NaBH}(\text{OAc})_3$ (wherein Ac is $\text{C}(\text{O})\text{CH}_3$) in a suitable solvent at room temperature;

- b. to prepare a compound wherein R^3 is hydrogen, coupling a compound of formula (III):



wherein R^4 , m , n , A and X are as defined in claim 1, with a compound of formula (V):



wherein R^1 and R^2 are as defined in claim 1 and L is a leaving group, in the presence of a base, in a suitable solvent at a temperature from 60°C to the boiling point of the solvent.

11. A pharmaceutical composition which comprises a compound as claimed in claim 1, or a pharmaceutically acceptable salt thereof or solvate thereof, and a pharmaceutically acceptable adjuvant, diluent or carrier.

12. A compound as claimed in claim 1, or a pharmaceutically acceptable salt thereof or solvate thereof, for use as a medicament.
13. A compound as claimed in claim 1, or a pharmaceutically acceptable salt thereof or solvate thereof, in the manufacture of a medicament for use in therapy.
14. A method of treating a CCR5 mediated disease state comprising administering to a patient in need of such treatment an effective amount of a compound as claimed in claim 1, or a pharmaceutically acceptable salt thereof or solvate thereof.